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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/552,264	07/28/2006	Jobst Horentrup	PD030038	6488
24498	7590	03/04/2009	EXAMINER	
Robert D. Shedd Thomson Licensing LLC PO Box 5312 PRINCETON, NJ 08543-5312			HEYI, HENOK G	
			ART UNIT	PAPER NUMBER
			2627	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/552,264	Applicant(s) HORENTRUP ET AL.	
	Examiner HENOK G. HEYI	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10/03/2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claimed variables n and k are not mentioned in claim 1 and claim 5 doesn't give any indication of what they are. Appropriate correction is required.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim US 6,463,208 B1 (Kim hereinafter) in view of Itoh US 2005/0013583 A1 (Itoh hereinafter).

Regarding claim 1 and 10, Kim teaches a method and apparatus for controlling a pick-up (3, Fig. 1) for reading three or more data streams from a storage medium (the structure of the data stream used in DVDs includes video data, audio data, sub-picture data, and control data, col 1 lines 36-40), the data streams being used for simultaneous reproduction and belonging to different data types with different constant or variable data rates (an optical disc reproducing apparatus and method using a variable transfer

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rate buffer to provide seamless play, col 1 lines 5-10), and the data streams being distributed to more than one file on said storage medium and being separately buffered after reading (the microprocessor 15, based on the management and sub-management data, causes the optical pick-up 3 to jump from location to location on the optical disk 1 where the data for the desired camera angle is stored to reproduce this data in the proper sequence. Consequently, the desired reproduction characteristics also cause the quantity of data input to the VBR buffer 9 to vary. In order to store variably transferred data, yet output a continuous and seamless stream of, for example, video data, the VBR buffer 9 with a large storage capacity is used, col 3 lines 55-65) but Kim fails to teach the pick-up data rate is higher than any of the buffer output data rates, with the amount of buffered data relating to any of said data streams being at least such that subsequent processing can be provided with the buffered data during the time required for accessing and reading the other data streams of the other data types, the method comprising:

- buffering a first data stream of a first data type, the data stream having the highest buffer output data rate of all said three or more buffered data streams, wherein said first data stream is read and buffered periodically in periods of a first period time; and
- accessing the data streams by the pick-up according to a predefined temporal scheme, the scheme being such that, after an initialization, for any three successive data stream accesses, wherein the second access reads another than said first data stream, the first and last accesses read said first data stream, and wherein the data

streams other than said first data stream are accessed and buffered in a constant predetermined order in periods of integer multiples of said first period time.

However, Itoh teaches that a data reading speed V_r is set to be higher than a data reproducing speed V_o so that there is no absence of data to be reproduced (underflow) in the buffer memory (see para [0015]). Itoh also teaches highest video data buffer output (see para [0120] and Fig. 8). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching of Kim so that buffering different data streams with different buffering rate and accessing them with predefined scheme. The modification would have been obvious because of the benefit of achieving seamless stream.

Regarding claim 2, Kim teaches method according to claim 1, wherein the pick-up is an optical pick-up (3, Fig. 1) and the data streams comprise a video data stream, an audio data stream and a subtitle data stream (the structure of the data stream used in DVDs includes video data, audio data, sub-picture data, and control data, col 1 lines 36-40).

Regarding claim 3, Kim teaches method according to claim 1, wherein said periods for reading the other buffers are individual for each buffer, such that the period for reading of a data stream from the storage medium is the shorter, the higher the buffer output data rate of the data stream is (In order to store variably transferred data, yet output a continuous and seamless stream of, for example, video data, the VBR buffer 9 with a large storage capacity is used, col 3 lines 55-65).

Regarding claim 4, Itoh teaches method according to claim 1, wherein the

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relating to accessing and buffering the other data streams than said first data stream are integer multiples of each other (during the total time (1.53 s) including three times the movement time of the pickup 130 and the reading time of audio data, the continuous data region for a moving image file has a size (3.3 Mbytes) in such a manner that moving image data that continues displaying a moving image is accumulated exactly in a moving image buffer memory, para [0120]).

Regarding claim 6, Itoh teaches method according to claim 1, wherein an interrupt request may interrupt the scheme, and after serving the interrupt request the same scheme as before is continued, wherein said continuing of the same scheme is achieved by loading one or more buffers only partially, to the level the buffer or buffers would have in the scheme at that time if the scheme had been continued without interruption (a moving image can be reproduced in real time continuously without interruption, para [0113]).

Regarding claim 7, Kim teaches method according to claim 1, wherein the start-up procedure comprises buffering an individual initial amount of data from each data stream, wherein the initial amount of buffered data is sufficient for each of the respective decoders to start working, and wherein the initial amount of buffered data corresponds to a position within the scheme where the amount of buffered data of the lower rated streams is minimal (the data decoding section 30 includes a video decoding part 21, a graphics circuit 24, and an audio decoding part 27 operating under the control of the navigator 17. The graphics circuit 24 receives the output of the VBR buffer 9 via the video decoding part 21, and the audio decoding part 27 receives the output of the VBR

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buffer 9 via the graphics circuit 24 and the video decoding part 21, para 2 lines 43-49).

Regarding claim 8, Kim teaches method according to claim 1, wherein additional data from other streams than said first data stream are buffered, the additionally buffered data leading to an additional time during which these additional data are output from the buffer, the additional buffer output time being shorter than said period (see para [0033]).

Regarding claim 9, Itoh teaches method according to claims claim 1, wherein additional data from said first data stream is buffered, the additionally buffered data leading to an additional time during which these additional data are output from the buffer, the additional time being shorter than said period, wherein T_j corresponds to the period when the scheduler interrupts the pick-up reading of a current video stream and moves to another stream that contains the video data for a requested angle, and T_{GOP} corresponds to a duration of a data unit that is sufficient for decoding (the size SCDA of the continuous data region containing data other than a moving image is represented as follows. $SCDA = V_o \cdot T_j / ((1-k) - V_o/V_r)$ In the present embodiment, post-recording mode recording is selected, in which a minimum data size of the continuous data region that enables a moving image file to be subjected to post-recording recording is selected, Para [0151] to [0152]).

Contact

Any inquiry concerning this communication or earlier communications from the

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examiner should be directed to HENOK G. HEYI whose telephone number is (571)270-1816. The examiner can normally be reached on Monday to Friday 8:30 to 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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